

# On the Road

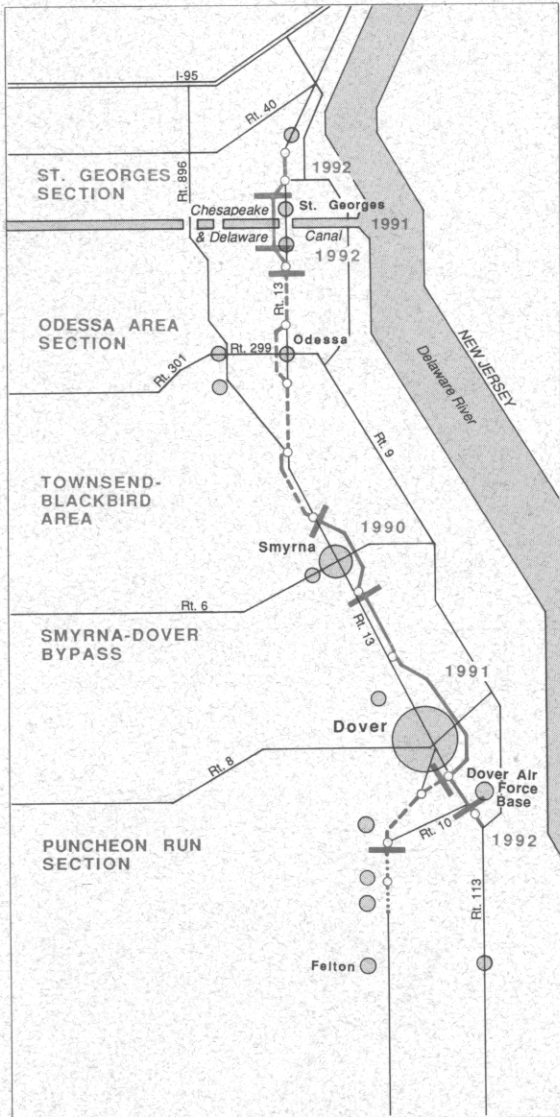
## ON THE RELIEF ROUTE-S.R.1

### Route 7 to U.S. Route 113

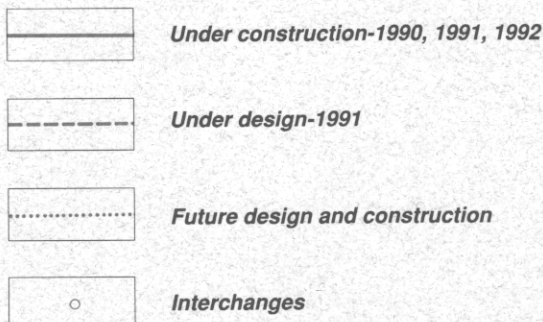
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#### DESIGN PREPARATION UNDERWAY FOR REMAINING SR-1 SECTIONS



SR-1 PROJECT STATUS



In the coming months, workshop meetings and formal public hearings will be held for the remaining sections of SR-1. A hearing is anticipated in late spring to solicit public comment on preliminary engineering plans for the section of new highway from Scott Run, south of St. Georges, to Road 485, north of Smyrna. Additional studies and workshops are planned to review the section along Route 13 south of Dover to Road 10. This section includes the Puncheon Run Connector linking Route 113 near Lafferty Lane with Route 13 near Webbs Lane. A final determination of what will be designed and built in this southern section is expected to be made by the fall of 1991.

*The Year 1991 marks the beginning of a major new phase of development of the Route 13 Relief Route. The first section of the project, the Smyrna and Dover Bypass, is under construction. The remaining sections will now move forward into final design, the phase during which detailed construction documents are prepared.*

The location of the highway in both sections was selected in 1987 after a 3-year planning and environmental impact process. This location has been approved by the Federal Highways Administration. There will be an alignment review of the southern section, as required by the Final Environmental Impact Statement (FEIS). The upcoming design public hearings will provide an opportunity to review aspects of the road design such as ramps, grading, drainage, and access to private properties. For the section south of Dover, community input will be solicited regarding the location and phasing of improvements, as required by the FEIS.

Preparation of construction documents for the 15-mile section north and south of Odessa will be handled by DelDOT and consultant engineers under four separate contracts. The Puncheon Run Section will be designed under a fifth contract. Document preparation is expected to start this spring and take two and a half years. Century Engineering Inc. Int'l, located in Dover, managing engineers for the Smyrna-Dover Bypass and the St. Georges Section, will oversee all design contracts. ■



Delaware

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*On the Road* is published by the Delaware Department of Transportation and is the official newsletter of the SR-1 Relief Route project.

#### ATTENTION ODESSA AREA AND SOUTH OF DOVER RESIDENTS AND BUSINESSES

Notices of Odessa and South Dover area workshops and public hearings will appear in local papers and be sent to people on the SR-1 mailing list. *On the Road* subscribers are requested to submit names and addresses of friends and neighbors interested in joining the mailing list to:

*On the Road*  
c/o KFS, Inc.  
219 N. Broad St., 9th Flr.  
Philadelphia, PA 19107

#### IN THIS ISSUE

- St. Georges section .... 2
- Smyrna bypass ..... 2
- Mainline contracts ..... 2
- DAFB section ..... 2
- Local bridges ..... 2
- Odessa area design overview ..... 3
- How to contact consultant team ..... 4

# Mile STONES



*View north towards the completed Road 6 bridge from the site of the SR-1 southbound lanes east of Smyrna. The cranes are being used to drive piles for the Mill Creek bridge.*



*The earthwork equipment pictured above is being used in the construction of the Smyrna bypass.*



*The Road 30 bridge, pictured above, is complete and open to traffic.*

• **ST. GEORGES SECTION** - Congress has approved the authorization of the \$115 million needed to construct the new St. Georges bridge over the C&D Canal. However, the details of a payback plan, whereby the federal government reimburses the State who fronts the money for construction, are still under negotiation. DelDOT and the U.S. Army Corps of Engineers must also determine which agency will manage construction of the project. Two sets of design plans for the new six-lane bridge, one calling for steel and the other concrete, are nearing completion and will be ready for advertisement once the funding and management issues are resolved. Construction, hoped to begin this summer, will take roughly three to four years.

Final design of the St. Georges roadway, which extends from the new Route 7 at Tybouts Corner to Scott Run, south of St. Georges, must await award of the St. Georges bridge contract. Depending on whether the steel or the concrete bridge is chosen, the elevation of the roadway approaching the bridge will vary by six feet. Once the bridge contract is awarded, completion of the road design will require another 4 to 6 months. DelDOT expects to advertise for construction bids for the road by the end of this year and to begin construction by the spring of 1992.

• **SMYRNA BYPASS CONSTRUCTION** - The Hardaway Company is underway with ground clearing and earthwork operations in preparation for construction of the SR-1 bypass east of Smyrna. Major cut and fill activities, necessary to build road embankments, have been undertaken in the vicinity of Road 12 and the South Smyrna interchange. The contractor is driving piles for the piers to support the Mill Creek bridge, the first stream crossing to be constructed. To bring construction equipment to the bridge site, Hardaway plans to set on the marsh a mat made of a series of hollow, metal boxes. This innovative method, an alternative to digging a canal to float a construction barge, results in little environmental disturbance.

• **SOUTH OF SMYRNA AND DOVER CONTRACTS AWARDED** - The contract for the SR-1 section between Smyrna and Dover, from Big Oak Road to north of the Denney's Road interchange, has been awarded to PKF Mark III, Inc. of Newtown, PA. The Dover Bypass contract has been awarded to George & Lynch, Inc. in a joint venture with James Julian, Inc., two local Delaware firms. Work on both projects is expected to begin by early March. DelDOT's goal is to open all three sections of the Smyrna-Dover Bypass at the same time, before Labor Day 1993.

• **DOVER AIR FORCE BASE SECTION** - The section of SR-1 south of Dover along Route 113 will be constructed in two phases. Construction of the roadway from Lafferty Lane to south of Route 10, with a temporary tie-in to Route 113, will be coordinated with the Dover contract schedule. The mile of road south of Route 10 to just south of the Dover Air Force Base will be constructed later, once air base negotiations are concluded. The hazardous wastes found at service stations and other commercial sites near the air base will be cleaned up by the time construction begins.

• **LOCAL ROAD BRIDGES and LAFFERTY LANE** - The bridges carrying Roads 30 and 66 and Route 6 over the SR-1 right-of-way are complete and open to traffic. Miscellaneous clean up and side road work remains along Route 6 and Road 66. Major bridgework on the K345 and K14 overpasses is done, with the base and roadway pavement still to be completed. These roads are expected to open to traffic by early summer. The relocated Lafferty Lane, south of Dover, reopened to traffic in December. ■



# 1ne PERSPECTIVE

"Perspective" is a regular feature of *On the Road* and is designed to provide readers with insights into the "behind the scenes" activities associated with the Relief Route. For this issue, "Perspective" talked with DelDOT engineers about the design engineering process for the middle section of SR-1, from south of St. Georges to north of Smyrna. The following is a summary of highlights.

## ODESSA AREA DESIGN PROCESS

**Survey Plans.** During the location planning phase of the Relief Route, the major mapping tool was aerial photography at a scale of 1"=400'. These photos were used by planners to determine how the location of the new highway would impact the environment. Engineers used the aerial photos to prepare base plans. These base plans integrate surveyed measurements of ground conditions and photo interpretation to determine contours, vegetation, buildings, and other features. These plans will provide the bulk of the field data needed throughout the construction document preparation phase.

The first step in the design phase is the preparation of preliminary engineering plans. These are base maps at a scale of 1"=50', detailed enough to show topography, the roadway center line and limits of right-of-way, and features of adjacent properties. The design consultants will later use the 50'-scale maps throughout the final design effort.

**Design Public Hearing.** Once completed the 50'-scale preliminary engineering plans, along with the aerial photos, will be exhibited at a design public hearing. At the hearing, the general public is invited to review and comment on these plans. Following the hearing, the engineers will review the comments and evaluate the feasibility of incorporating the changes into the design. DelDOT will submit a report on the hearing to the Federal Highways Administration, who must approve preliminary engineering before final design can proceed. Approval is usually obtained within six months of the hearing.

**Value Engineering.** After the design public hearing, a "value engineering" team will meet to evaluate the cost of each design feature—alignment, grade, ramps, interchanges, service roads—in light of public comments received. This multi-disciplinary team is composed of experts in structural and highway design engineering, soils and other environmental sciences. Their goal is to determine how to save money through refinements to the design.

Local environmental conditions should not significantly affect the cost of this section of SR-1. Generally the topography and soils of New Castle County produce fewer pockets of wetlands and provide better drainage with much less fill than does the flat landscape of Kent County found in the sections now under construction. The 10-mile section north of Smyrna to Pine Tree Corner, where the terrain is similar to the Smyrna and Dover sections, will require considerable fill. The availability of fill will remain an important concern throughout the Odessa Area Section.

**Construction Plans.** Detailed design engineering plans are completed in three stages. After the design public hearing, engineers prepare "preliminary" construction plans, showing the type, size and location of all features. At this point the design is about 60% complete. At the "semi-final" plan phase, the engineering design is 95% complete and excludes only the detailed calculations of quantities and specifications. Final construction plans, specifications, and engineers cost estimates, referred to as "P.S.& E.", are the product of the design engineering process. A blueprint for actual construction of the road, the P.S.&E. also specifies types and quantities of needed materials and special provisions such as how to build near waterways. Contractors who wish to bid for the job must purchase a copy of the P.S.&E.

**Right-of-Way Plans.** Right-of-way plans are the 50'-scale maps with property lines delineated showing which properties or parts of properties the State must acquire to construct the road. Final right-of-way plans are prepared in advance of final construction plans. The State is required to obtain control of the land and to relocate residents, businesses, or utility lines, if necessary, prior to construction.

## ODESSA AREA ISSUES

Several issues have arisen since location approval in 1987 that will affect the design engineering of the middle section of SR-1.

**Appoquinimink Creek Crossing.** The length of the Appoquinimink Creek bridge, a tidal river crossing north of Smyrna, is still under study. The decision will depend on: 1) the quality of the subsoil—poor quality subsoils require greater bridge structure and therefore a longer span; 2) the frequency and magnitude of flooding—for the roadway to remain passable during floods, bridge



*View of Appoquinimink Creek, just east of Route 13, where the SR-1 bridge crossing will be constructed.*

## DID YOU KNOW?

- DelDOT conducts traffic studies on Delaware roads and produces an annual summary of its findings. These findings help DelDOT plan future road improvements. Below are some of the findings.

- Vehicular traffic on Route 13 in the Odessa area has nearly doubled since 1982, from 18,661 vehicles to 37,621 vehicles in 1987.

- In 1989, truck traffic on Route 13 in the Odessa area comprised 15% of the total traffic. This proportion was the same in 1982.

- In the Boyd's Corner area of Route 13, there was a 50% increase in traffic between 1982 and 1987. But in the same period truck traffic decreased from 17% to 11%.

("Perspective" continued from page 3)

height must be increased, lengthening the span; 3) the shading effect on wetlands—the higher the bridge, the less detrimental the cast shadow; and 4) the economic costs of each of the above. A structure as long as 1,100 feet is under consideration, while the typical span for stream crossings is 100 to 150 feet. Detailed negotiations with federal resource agencies are expected.

**Odessa Ramps.** Two northbound ramp options at Odessa are under consideration. These may be located either south of Odessa or at Route 299. In both options southbound ramps will be located at Route 299. A preliminary review with Odessa area residents has already occurred and more discussion is expected.

**Boyd's Corner.** Significant residential development has occurred in recent years in the vicinity of Boyd's Corner, where Route 13 intersects Boyd's Corner Road (Road 15). DelDOT's goal has been

to coordinate with area developers to define setback and right-of-way requirements from SR-1 that minimize impacts on the new subdivisions.

**Toll Plaza.** The location of the northern toll plaza, originally planned north of the C&D Canal, is now being considered across from Road 2 on the west side of Route 13.

**Mainline Shifts.** Two portions of the mainline have been shifted in order to maintain Route 13 as a dual road providing for local service: 1) from south of the C&D Canal to Road 413 shifted west 150 feet and 2) from south of Odessa to Pine Tree Corner shifted east 150 feet. Previously one lane of existing Route 13 was to be used as a service road for the new highway. ■

### To Our Readers

The State of Delaware and the consultant team are committed to continuing the citizen input process during the design and construction phases of the project. We invite you to write us with questions or comments regarding *On the Road* or to arrange for a presentation to bring your group up to date on the Relief Route. To receive your free copy of *On the Road* as well as other mailings related to the project, please write or call us with your request.

## For More INFORMATION

### CONTACT DelDOT

Delaware Department of Transportation  
P.O. Box 778  
Dover, DE 19903

- Public Information - contact Michele Ackles, Manager of Community Relations, at 739-4313.
- Design Issues - contact Dave DuPlessis, Project Coordinator, at 739-4643.
- Environmental Issues - contact Joe Wutka, Location Studies Engineer, at 739-4642.
- Right-of-Way Acquisition and Relocation - contact Ira White, Project Acquisitions Manager, at 739-2776.

### Or CONTACT THE CONSULTANT TEAM

Kise Franks & Straw  
219 North Broad Street, 9th Floor  
Philadelphia, PA 19107  
Toll-Free: 1-800-343-3084

- Jeremy Alvarez, Deputy Director

*On the Road*

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